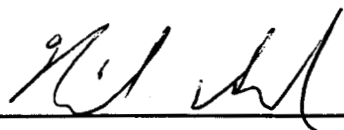


This Track 1 Decision Document is marked "Draft" but is a final document signed by the agencies.

 Date 2/15/2005

DOE/ID-10895
April 2002

**SITE 026 TRACK 1
DECISION DOCUMENTATION
PACKAGE, OU 10-08**

**DECISION DOCUMENTATION PACKAGE
COVER SHEET**

Prepared in accordance with

**TRACK 1 SITES:
GUIDANCE FOR ASSESSING
LOW PROBABILITY HAZARD SITES
AT THE INEEL**

Site Description: Detonation Pit Between NRF and TRA

Site ID: 026

Operable Unit: 10-08

Waste Area Group: 10

I. SUMMARY – Physical description of the site:

This site consists of a detonation pit located adjacent to dirt road T-3 halfway between the Naval Reactors Facility (NRF) and Test Reactor Area (TRA), just North of Lincoln Boulevard. Disturbed vegetation and stained soil are evident, and numerous metal fragments are scattered about the pit and surrounding area.

This site was originally listed as part of an environmental baseline assessment in 1994 and identified as a potential new waste site in 1995. In accordance with Management Control Procedure-3448, *Reporting or Disturbance of Suspected Inactive Waste Sites*, a new site identification form was completed for this site. As part of the process, a field team wrote a site description, and collected photographs and global positioning system (GPS) coordinates of the site (the GPS coordinates are The GPS coordinate system is listed as North American Datum 27, Idaho East Zone, State Plane Coordinates. The new site identification process also included a search and review of existing historical documentation.

Site 026 is located within the Naval firing fan, an area of the INEEL set aside by the U.S. Navy to test fire naval guns, conduct mass detonation tests, practice aerial bombing, and perform explosive material compatibility tests during World War II (WW II). This site was investigated as part of an INEEL Ordnance Removal Action in 1999. An interview with an INEEL explosives expert revealed that the site was thoroughly surveyed and found to contain no visual evidence of unexploded ordnance; however, a range fire burned through this area during the summer of 2000, and he plans to revisit the area this summer to review changes to the site as a result of the fire. He reported that the rusted metal fragments found in the area are most likely remnants of land mines or projectiles - inert substances that pose no risk to human health or the environment. The source and extent of the stained soil areas cannot be determined with existing information, but may be residual trinitrotoluene (TNT), which can exude an oily brown liquid. This exudate oozes out around the threads at the nose of the shell and may form a residual pool on the soil surface. The stained soil appears to be reddish brown in color, composed of silt and sand, with prevalent basalt outcroppings.

DECISION RECOMMENDATION

II. SUMMARY - Qualitative Assessment of Risk:

The reliability of information provided in this report is medium to high. Site investigations reveal no visual evidence of unexploded ordnance, however, the INEEL explosives expert plans to revisit the area this summer to review changes to the site as a result of the fire. Photographs show that the site has some areas of disturbed and stained soil where the vegetation is sparse or non-existent. The stained soil may have resulted from TNT, which can exude an oily brown liquid. There is a large amount of rusted metal fragments from activities that occurred at the site from Naval testing; however it has been determined to be inert and poses no risk. Lacking field screening or sample data for this site, the overall qualitative risk is unknown.

III. SUMMARY - Consequences of Error:

False negative error:

The possibility of contamination levels at this site being above risk-based limits is remote. However, it is not possible to determine if there is any type of contamination because no field screening or sample data exist for this site.

False positive error:

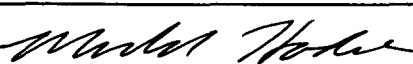
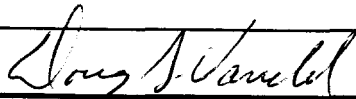
If further action were completed at a low risk site, funds expended could exceed the environmental benefit. Surface soil sampling and analysis for organic compounds, metals, radionuclides, and other hazardous constituents would be needed to verify the presence or absence of contamination. Based on interviews, field investigations, existing information and the lack of sample data this site needs further investigation to be classified as No Further Action.

IV. SUMMARY - Other Decision Drivers:

There are no other decision drivers for this site.

Recommended Action:

It is recommended that this newly identified site continue under the Track 2 process to determine the extent and concentration of contamination that may be present. Interviews with INEEL personnel, past field investigations, and historical process knowledge indicate that risk to human health and the environment cannot be determined with existing information. The detonation pit and metal fragments reportedly resulted from U.S. Naval practices including test firing naval guns, conducting mass detonation tests, practicing aerial bombing, and performing explosive material compatibility tests. Previous site investigations revealed no visual evidence of unexploded ordnance in the area; however, explosives personnel plan to perform further surveying. The origin and estimation of potential contamination from the stained soil areas cannot be determined with existing information. The metal substances were determined to be inert and thought to pose no potential risk. It will be necessary to conduct field screening and/or sampling to confirm the presence or absence of any potential contaminants.

Signatures:	# Pages: 16	Date: August 1, 2001
Prepared By: Marilyn Paarmann, WPI	DOE WAG Manager:	
Approved By: 	Independent Review: 	

DECISION STATEMENT
(DOE RPM)

Date Received: 1/14/05

Disposition:

All detonation pits are included in OU-10-69 RDD. Therefore, the risk posed by site # 026 will be considered in integrated INEEL 5-Year Review. An ESD may be used if 5-Year Review determines that an action is required.

Date: 1/14/05

Pages: 10 + 1

Name: Kathleen Huin

Signature: Kathleen E Huin

DECISION STATEMENT
(EPA RPM)

Date Received: 5/8/02 Site 026

Disposition:

Site consists of an old detonation pit located within the Naval firing fan. Like site 035, the description appears to support inclusion of this site into the OU 10-04 RD/RA process. If appropriate the OU 10-04 ROD can be modified through an ESD to accommodate the inclusion.

Date: 2/25/03

Pages: 1

Name: Wayne Pierre

Signature: Wayne Pierre

DECISION STATEMENT
(IDEQ RPM)

Date Received: September 4, 2001

Disposition:

Site # 026

This site is a detonation pit located between NRF and TRA and just north of Lincoln Boulevard. Disturbed vegetation, stained soil, and metal fragments are evident; the stained soil possibly resulted from residual TNT. The site appears to be consistent with other ordnance sites already incorporated into the OU 10-04 ROD. It is recommended that this site be included in the OU 10-04 RD/RA process. An ESD can be used, if necessary, to include this site in the OU 10-04 ROD.

Date: August 8, 2003

Pages: 1

Name: Dayle F. Kuck

Signature: Dayle F. Kuck
for Dean Nygard

PROCESS/WASTE WORKSHEET			PROCESS: Detonation Pit Between NRF and TRA
SITE ID: <u>026</u>			WASTE: Pit With Disturbed and Stained Soil and Metal Fragments
Col 1 Processes Associated With This Site	Col 2 Waste Description & Handling Procedures	Col 3 Description & Location of any Artifacts/Structures/Disposal Areas Associated with this Waste or Process	
Detonation pit with disturbed and stained soil and scattered metal fragments.	This site was initially part of the Naval firing fan, an area set aside by the U.S. Navy to test fire naval guns, conduct mass detonation tests, practice aerial bombing, and perform explosive material compatibility tests during WW II. The depression and metal fragments are believed to be remnants of those activities.	<p>Artifact: Detonation pit with disturbed and stained soil and metal fragments</p> <p>Location: The pit is positioned west of Lincoln Boulevard, adjacent to dirt road T-3, halfway between NRF and TRA.</p> <p>Description: The pit includes a depression with disturbed vegetation and stained soil. A large quantity of metal fragments was found in the pit and the surrounding area.</p>	

CONTAMINANT WORKSHEET								
SITE ID: 026								
PROCESS: (Col 1) Detonation Pit Between NRF and TRA								
WASTE: (Col 2) Pit With Disturbed Soil and Metal Fragments								
Col 4 What Known/Potential Hazardous Substance/Constituents are Associated with this Waste or Process?	Col 5 Potential Sources Associated with this Hazardous Material	Col 6 Known/Estimated Concentration of Hazardous Substances/ Constituents	Col 7 Risk-based Concentration	Col 8 Qualitative Risk Assessment (hi/med/low)	Col 9 Overall Reliability (high/med/low)			
None	Soil	None	Unknown	Med	Med			

Question 1. What are the waste generation processes, locations, and dates of operation associated with this site?

Block 1 Answer:

Site 026 consists of a detonation pit located adjacent to dirt road T-3 between the Naval Reactors Facility (NRF) and Test Reactor Area (TRA), just North of Lincoln Boulevard. Disturbed vegetation and stained soil are evident, and numerous metal fragments are scattered about the pit and surrounding area. This site is located within the Naval firing fan, an area of the INEEL set aside by the U.S. Navy to test fire naval guns, conduct mass detonation tests, practice aerial bombing, and perform explosive material compatibility tests during WW II. This site was investigated as part of an INEEL Ordnance Removal Action in 1999. An interview with an INEEL explosives expert revealed that the site was thoroughly surveyed then and found to contain no visual evidence of unexploded ordnance; however, they plan further surveying this summer. Photographs show that the site has some areas of disturbed and stained soil where the vegetation is sparse or non-existent. The stained soil may have resulted from Trinitrotoluene (TNT), which can exude an oily brown liquid; but this cannot be determined with existing information. The rusted metal fragments found in the area were thought to be remnants of land mines or projectiles - inert substances that pose no risk to human health or the environment.

Block 2 How reliable are the information sources? ☒ High ☐ Med ☐ Low (check one)
Explain the reasoning behind this evaluation.

Interviews were conducted with an INEEL Environmental Baseline Assessment Team Member, Cultural Resource personnel, and an INEEL explosives expert who either visited the site or reviewed photographs verifying the physical description of the site and were familiar with historical processes at the INEEL.

Block 3 Has this INFORMATION been confirmed? ☒ Yes ☐ No (check one)
If so, describe the confirmation.

Photographs of the site, interviews with INEEL personnel, and a 1999 site investigation confirmed the location and physical description of the site.

Block 4 Sources of Information [check appropriate box(es) & source number from reference list]

No available information	<input type="checkbox"/>	Analytical data	<input type="checkbox"/>
Anecdotal	<input checked="" type="checkbox"/> 2,6,7	Documentation about data	<input type="checkbox"/>
Historical process data	<input type="checkbox"/>	Disposal data	<input type="checkbox"/>
Current process data	<input type="checkbox"/>	Q.A. data	<input type="checkbox"/>
Photographs	<input checked="" type="checkbox"/> 3	Safety analysis report	<input type="checkbox"/>
Engineering/site drawings	<input type="checkbox"/>	D&D report	<input type="checkbox"/>
Unusual Occurrence Report	<input type="checkbox"/>	Initial assessment	<input checked="" type="checkbox"/> 5
Summary documents	<input checked="" type="checkbox"/> 4	Well data	<input type="checkbox"/>
Facility SOPs	<input type="checkbox"/>	Construction data	<input type="checkbox"/>
OTHER	<input checked="" type="checkbox"/> 8		

Question 2. What are the disposal processes, locations, and dates of operation associated with this site? How was the waste disposed?

Block 1 Answer:

This site consists of a detonation pit located adjacent to dirt road T-3 between the Naval Reactors Facility (NRF) and Test Reactor Area (TRA), just North of Lincoln Boulevard. Disturbed vegetation and stained soil are evident, and numerous metal fragments are scattered about the pit and surrounding area. Site 026 is located within the Naval firing fan, an area of the INEEL set aside by the U.S. Navy to test fire naval guns, conduct mass detonation tests, practice aerial bombing, and perform explosive material compatibility tests during WW II.

Block 2 How reliable are the information sources? X High _ Med _ Low (check one)
Explain the reasoning behind this evaluation.

Interviews were conducted with an INEEL Environmental Baseline Assessment Team Member, Cultural Resource personnel, and an INEEL explosives expert who either visited the site or reviewed photographs verifying the physical description of the site.

Block 3 Has this INFORMATION been confirmed? X Yes _ No (check one)
If so, describe the confirmation.

Photographs of the site, interviews with INEEL and DOE-ID personnel, and a 1999 site investigation confirmed the location and physical description of the site.

Block 4 Sources of Information [check appropriate box(es) & source number from reference list]

No available information	<input type="checkbox"/>		Analytical data	<input type="checkbox"/>
Anecdotal	<input checked="" type="checkbox"/>	2,6,7	Documentation about data	<input type="checkbox"/>
Historical process data	<input type="checkbox"/>		Disposal data	<input type="checkbox"/>
Current process data	<input type="checkbox"/>		Q.A. data	<input type="checkbox"/>
Photographs	<input checked="" type="checkbox"/>	3	Safety analysis report	<input type="checkbox"/>
Engineering/site drawings	<input type="checkbox"/>		D&D report	<input type="checkbox"/>
Unusual Occurrence Report	<input type="checkbox"/>		Initial assessment	<input checked="" type="checkbox"/> 5
Summary documents	<input checked="" type="checkbox"/>	4	Well data	<input type="checkbox"/>
Facility SOPs	<input type="checkbox"/>		Construction data	<input type="checkbox"/>
OTHER	<input type="checkbox"/>			

Question 3. Is there evidence that a source exists at this site? If so, list the sources and describe the evidence.

Block 1 Answer:

There is limited evidence that a source exists at Site 026.

Site investigations and interviews revealed that the site likely resulted from WW II Naval operations. This site was thoroughly investigated as part of an INEEL Ordnance Removal Action in 1999. An interview with an INEEL explosives expert revealed that the site was found to contain no visual evidence of unexploded ordnance; however, they plan further surveying this summer. Photographs show that the site has some areas of disturbed and stained soil where the vegetation is sparse or non-existent. The stained soil may have resulted from Trinitrotoluene (TNT), which can exude an oily brown liquid; but this cannot be determined with existing information. The rusted metal fragments found in the area were thought to be remnants of land mines or projectiles - inert substances that pose no risk to human health or the environment.

Block 2 How reliable are the information sources? ☒ High ☒ Med ☐ Low (check one)
Explain the reasoning behind this evaluation.

Discussions were held with an INEEL ER explosives expert who visited the site and was familiar with past practices at the INEEL. He confirmed that the depression and metal fragments likely resulted from U.S. Navy detonation tests.

Block 3 Has this information been confirmed? ☐ Yes ☒ No (check one)
If so, describe the confirmation.

Block 4 Sources of Information [check appropriate box(es) & source number from reference list]

No available information	<input type="checkbox"/>	Analytical data	<input type="checkbox"/>
Anecdotal	<input checked="" type="checkbox"/> 6	Documentation about data	<input type="checkbox"/>
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Current process data	<input type="checkbox"/>	Q.A. data	<input type="checkbox"/>
Photographs	<input type="checkbox"/>	Safety analysis report	<input type="checkbox"/>
Engineering/site drawings	<input type="checkbox"/>	D&D report	<input type="checkbox"/>
Unusual Occurrence Report	<input type="checkbox"/>	Initial assessment	<input checked="" type="checkbox"/> 5
Summary documents	<input type="checkbox"/>	Well data	<input type="checkbox"/>
Facility SOPs	<input type="checkbox"/>	Construction data	<input type="checkbox"/>
OTHER	<input checked="" type="checkbox"/> 8		

Question 4. Is there empirical, circumstantial, or other evidence of migration? If so, what is it?

Block 1 Answer:

The migration of potential contaminants cannot be determined with existing information. Site investigations and photographs indicate evidence of disturbed and stained soil and areas of sparse vegetation. Based on historical process knowledge, there is potential for soil contamination from residual TNT and other high explosives used in detonation tests performed by the U.S. Navy. No field screening or sampling has been conducted at this site for organics, metals, radionuclides, or other hazardous constituents to confirm the existence of a hazardous source.

Block 2 How reliable are the information sources? _ High X Med _ Low (check one)
Explain the reasoning behind this evaluation.

Visual site inspections and recent photographs of the site show evidence of stained soil and sparse vegetation; however, the origin and extent of the staining cannot be determined with current information.

Block 3 Has this information been confirmed? _ Yes X No (check one)
If so, describe the confirmation.

Block 4 Sources of Information [check appropriate box(es) & source number from reference list]

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Summary documents	<input checked="" type="checkbox"/> 4	Well data	<input type="checkbox"/>
Facility SOPs	<input type="checkbox"/>	Construction data	<input type="checkbox"/>
OTHER	<input checked="" type="checkbox"/> 8		

Question 5. Does site operating or disposal historical information allow estimation of the pattern of potential contamination? If the pattern is expected to be a scattering of hot spots, what is the expected minimum size of a significant hot spot?

Block 1 Answer:

The pattern of potential contamination is currently unknown. The detonation pit and metal fragments reportedly resulted from U.S. Naval practices including test firing naval guns, conducting mass detonation tests, practicing aerial bombing, and performing explosive material compatibility tests. An INEEL explosives expert surveyed the area and reported no visual evidence of unexploded ordnance; however, further surveying is planned. The origin and pattern of potential contamination for the stained soil cannot be determined with existing information, but may be residual TNT. Further field screening or sampling would be needed to confirm the presence of explosives residue or other contaminants.

Block 2 How reliable are the information sources? _ High X Med _ Low (check one) Explain the reasoning behind this evaluation.

Discussions were held with an INEEL explosives experts who visited the site and was familiar with past practices at the INEEL. Site investigations and photographs confirm the present physical condition of the area. Further site investigations involving field screening and/or soil sampling would be necessary to confirm the presence or absence of a contaminant source.

**Block 3 Has this information been confirmed? _ Yes X No (check one)
If so, describe the confirmation.**

Block 4 Sources of Information [check appropriate box(es) & source number from reference list]

No available information	<input type="checkbox"/>	Analytical data	<input type="checkbox"/>
Anecdotal	<input checked="" type="checkbox"/> 2,6,7	Documentation about data	<input type="checkbox"/>
Historical process data	<input type="checkbox"/>	Disposal data	<input type="checkbox"/>
Current process data	<input type="checkbox"/>	Q.A. data	<input type="checkbox"/>
Photographs	<input checked="" type="checkbox"/> 3	Safety analysis report	<input type="checkbox"/>
Engineering/site drawings	<input type="checkbox"/>	D&D report	<input type="checkbox"/>
Unusual Occurrence Report	<input type="checkbox"/>	Initial assessment	<input checked="" type="checkbox"/> 5
Summary documents	<input checked="" type="checkbox"/> 4	Well data	<input type="checkbox"/>
Facility SOPs	<input type="checkbox"/>	Construction data	<input type="checkbox"/>
OTHER	<input checked="" type="checkbox"/> 8		

Question 6. Estimate the length, width, and depth of the contaminated region. What is the known or estimated volume of the source? If this is an estimated volume, explain carefully how the estimate was derived.

Block 1 Answer:

The estimated contaminated region or source volume from this site cannot be estimated with existing information. Site investigations and photographs indicate that the pit and metal fragments are located within an approximately one-quarter acre sized area. There is visual evidence of disturbed vegetation and stained soil. It is likely that the soil depression and metal fragments resulted from WW II Naval operations and do not pose a potential contamination risk. The origin and extent of the stained soil cannot be estimated without further investigation involving field screening or sampling

Block 2 How reliable are the information sources? _ High X Med _ Low (check one)
Explain the reasoning behind this evaluation.

This estimate was derived from the information contained in the environmental baseline assessment, subsequent site investigations, interviews with personnel familiar with INEEL historical processes, and photographs of the site.

Block 3 Has this INFORMATION been confirmed? _ Yes X No (check one)
If so, describe the confirmation.

Block 4 Sources of Information [check appropriate box(es) & source number from reference list]

No available information	<input type="checkbox"/>	Analytical data	<input type="checkbox"/>
Anecdotal	<input checked="" type="checkbox"/> 6	Documentation about data	<input type="checkbox"/>
Historical process data	<input type="checkbox"/>	Disposal data	<input type="checkbox"/>
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Unusual Occurrence Report	<input type="checkbox"/>	Initial assessment	<input checked="" type="checkbox"/> 5
Summary documents	<input checked="" type="checkbox"/> 4	Well data	<input type="checkbox"/>
Facility SOPs	<input type="checkbox"/>	Construction data	<input type="checkbox"/>
OTHER	<input type="checkbox"/>		

Question 7. What is the known or estimated quantity of hazardous substance/constituent at this source? If the quantity is an estimate, explain carefully how the estimate was derived.

Block 1 Answer:

No sample data exist for this site. The estimated quantity of hazardous substances/constituents at this site cannot be estimated without further site investigation involving field screening and/or sampling.

Interviews with INEEL personnel have confirmed that the pit and scattered metal fragments resulted from various types of artillery and explosives testing by the U.S. Navy. There is a potential for residual contamination from explosives in the soil; however the quantity of hazardous constituents is unknown.

Block 2 How reliable are the information sources? _ High X Med _ Low (check one)
Explain the reasoning behind this evaluation.

This evaluation is based on a 1999 site investigation and previous investigations by an INEEL explosives expert.

Block 3 Has this INFORMATION been confirmed? _ Yes X No (check one)
If so, describe the confirmation.

Block 4 Sources of Information [check appropriate box(es) & source number from reference list]

No available information	<input type="checkbox"/>	Analytical data	<input type="checkbox"/>
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Unusual Occurrence Report	<input type="checkbox"/>	Initial assessment	<input checked="" type="checkbox"/> 5
Summary documents	<input type="checkbox"/>	Well data	<input type="checkbox"/>
Facility SOPs	<input type="checkbox"/>	Construction data	<input type="checkbox"/>
OTHER	<input type="checkbox"/>		

Question 8. Is there evidence that this hazardous substance/constituent is present at the source as it exists today? If so, describe the evidence.

Block 1 Answer:

No sample data exist for this site. The detonation pit reveals areas of disturbed and stained soil and sparse vegetation. Based on historical process knowledge, there is a potential for soil contamination from residual TNT and RDX, and other high explosives used in detonation tests performed by the U.S. Navy. Field screening or sampling for organics, metals, radionuclides, or other hazardous constituents is needed to confirm the presence or absence of a hazardous source.

Block 2 How reliable are the information sources? _ High X Med _ Low (check one)
Explain the reasoning behind this evaluation.

This evaluation is based on interviews with personnel who were either directly involved with the waste generation activities conducted at the site or are familiar with past INEEL practices. The evaluation is also based on site investigations and photographs of the site. The evidence of a hazardous source or substance cannot be confirmed with existing information.

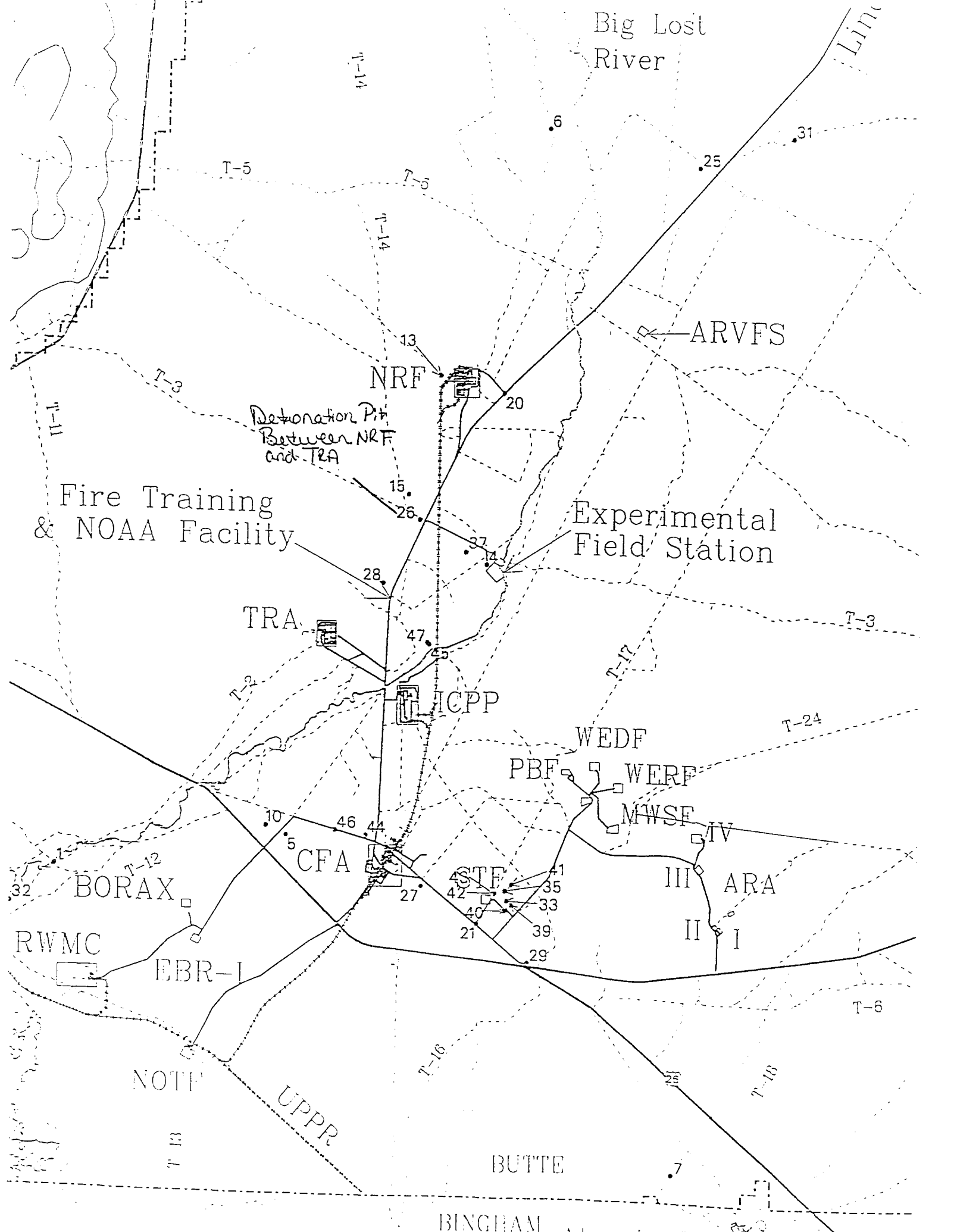
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Summary documents	<input type="checkbox"/>	Well data	<input type="checkbox"/>
Facility SOPs	<input type="checkbox"/>	Construction data	<input type="checkbox"/>
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REFERENCES

1. DOE, 1992, Track 1 Sites: Guidance for Assessing Low Probability Sites at the INEL, DOE/ID-10390 (92), Revision 1, U.S. Department of Energy, Idaho Falls, Idaho, July.
2. Interview with Scott Lebow, Environmental Baseline Assessment team member, February 7, 2001.
3. Photographs of Site #026: P99-465-1-18, P99-465-1-19, and P99-465-1-20.
4. EG&G Idaho Inc. 1994, Environmental Baseline Assessment, Volume I: Site Facilities (DRAFT), EGG-WM-11469, September.
5. FY1999 WAG 10 Newly Identified Sites, Volumes I and II.
6. Interview with Hanceford Clayton, INEEL ER ES&HQA Explosives Expert, April 11, 2001.
7. Interview with Brenda Ringe Pace, INEEL Cultural Resources Management, March 2001.
8. Websites containing information about TNT: <http://eunuch.ddg.com>; <http://www.atsdr.cdc.gov>; <http://risk.lsd.ornl.gov/tox/profiles/>.



Big Lost River

Lin

ARVFS

NRF

Detonation Pit
Between NRF
and TRA

Fire Training
& NOAA Facility

Experimental
Field Station

TRA

ICPP

WEDF

PBF

WERF

MWSE

CFA

STF

ARA

BORAX

RWMC

EBR-I

NOTF

UPPR

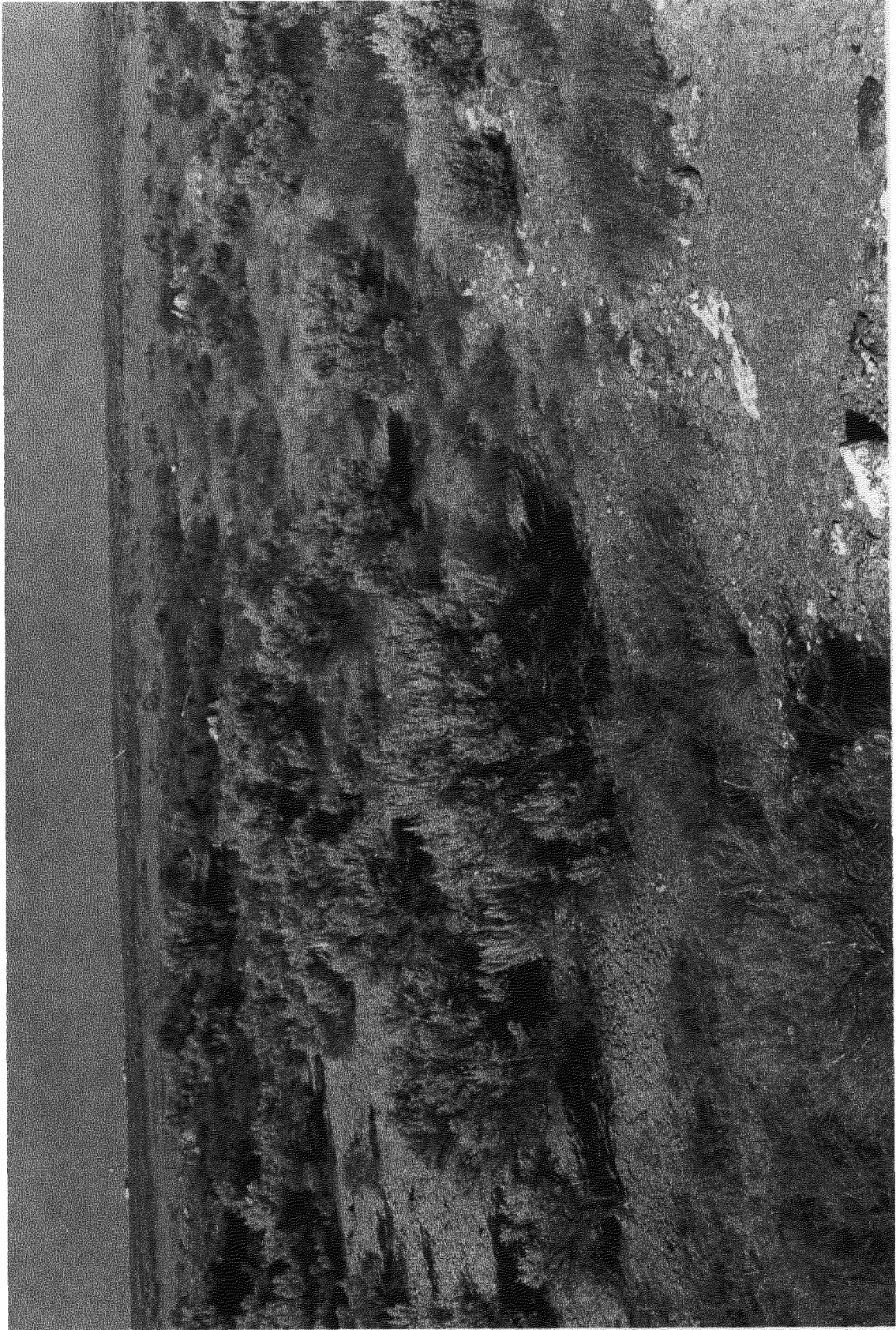
BUTTE

BINGHAM

Alameda Co

Attachment A

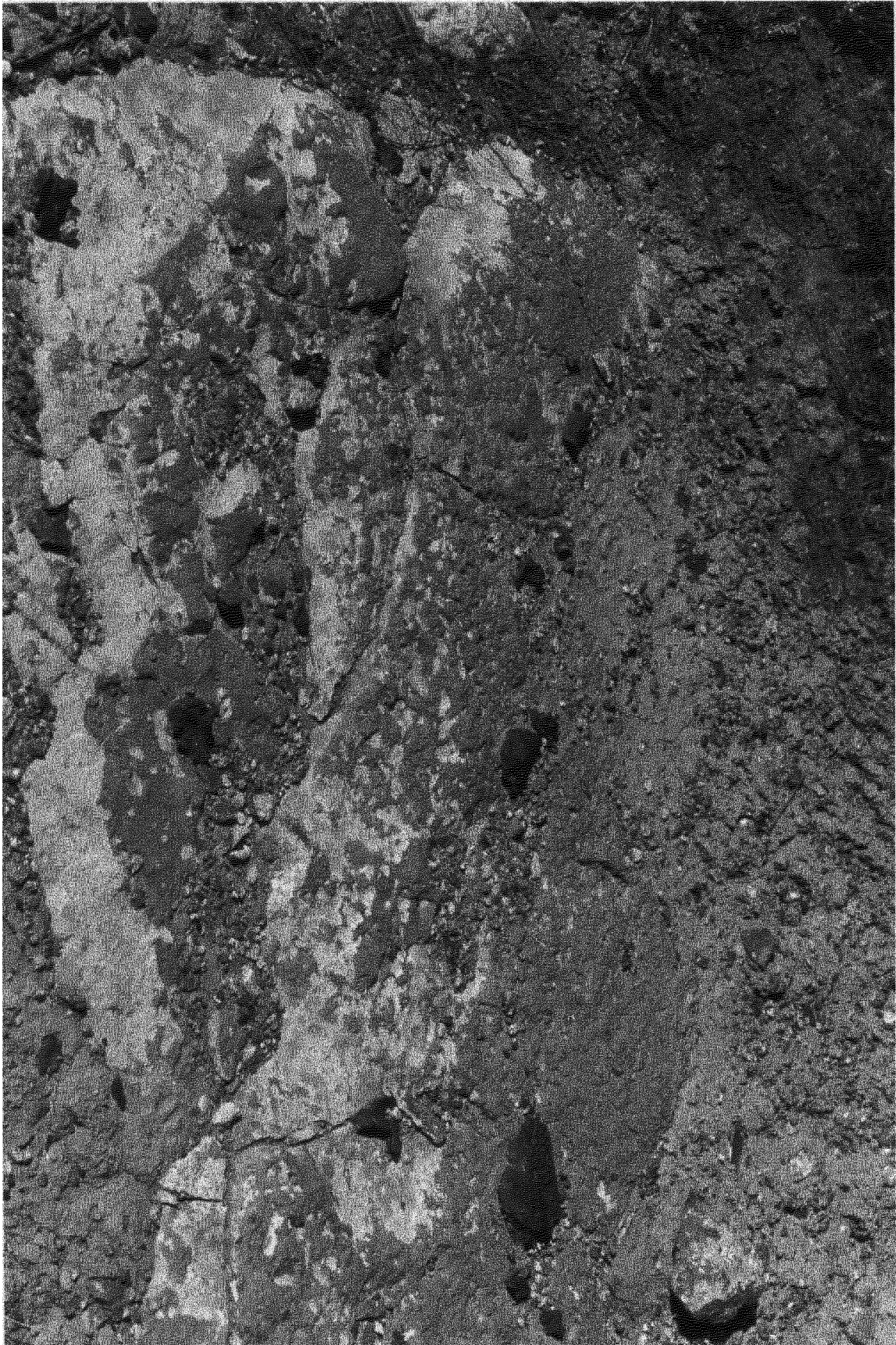
Photographs of Site #026



Site: 026 Detonation Pit Between NRF and TRA
(99-465-1-10)



Site: 026 Detonation Pit Between NRF and TRA
(99-465-1-20)



Site: 026 Detonation Pit Between NRF and TRA
(99-465-1-19)

Attachment B

Supporting Information for Site #026

NEW SITE IDENTIFICATION

Part A – To Be Completed By Observer

1. Person Initiating Report: Jacob Harris

Phone: 526-1877

Contractor WAG Manager: Douglas Burns

Phone: 526-4324

2. Site Title: 026, Detonation Pit Between NRF and TRA

3. Describe the conditions that indicate a possible inactive or unreported waste site. Include location and description of suspicious condition, amount or extent of condition and date observed. A location map and/or diagram identifying the site against controlled survey points or global positioning system descriptors shall be included to help with the site visit. Include any known common names or location descriptors for the waste site.

There is a detonation pit adjacent to T-3 between NRF and TRA. During the August 1999 site visit a depression with disturbed vegetation and soil staining was observed. Metal fragments were in the pit and the surrounding area. The GPS coordinates of the site are . The reference number for this site is 026 and can be found on the summary map as provided.

Part B – To Be Completed By Contractor WAG Manager

4. Recommendation:

☒ This site meets the requirements for an inactive waste site, requires investigation, and should be included in the INEEL FFA/CO Action Plan. Proposed Operable Unit assignment is recommended to be included in the FFA/CO.
WAG: Operable Unit:

☐ This site DOES NOT meet the requirements for an inactive waste site, DOES NOT require investigation and SHOULD NOT be included in the INEEL FFA/CO Action Plan.

5. Basis for the recommendation:

The conditions that exist at this site indicate the potential for an inactive waste site according to Section 2 of MCP-3448 Reporting or Disturbance of Suspected Inactive Waste Sites.

The basis for recommendation must include: (1) source description; (2) exposure pathways; (3) potential contaminants of concern; and (4) descriptions of interfaces with other programs, as applicable (e.g., D&D, Facility Operations, etc.)

6. Contractor WAG Manager Certification: I have examined the proposed site and the information submitted in this document and believe the information to be true, accurate, and complete. My recommendation is indicated in Section 4 above.

Name: _____ Signature: _____ Date: _____

Marilyn Paarmann

Interview with Hance Clayton

INEEL ER ESH&QA Explosives Expert

April 11, 2001

Site 026 - Part of INEEL Firing Range

Hance remembers seeing two distinct pits in this area. Land mines and projectile remnants. During survey they found no duds (unexploded ordnance) or explosive residue (TNT or RDX). Brown (rust colored) remnants are metal fragments. They are inert substances - Pose no threat

Craters may be from bombs or large rounds. Could also be lava formations (basalt outcropping).

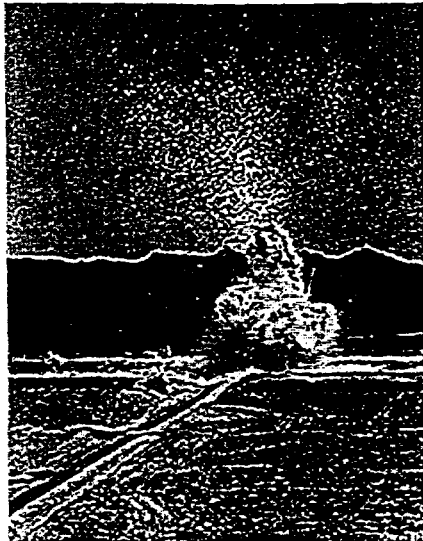
He wants to go out there again to see what area looks like post-fire. There may be more UXO exposed or other changes.

6

TRINITROTOLUENE (TNT)

*This web page is the result of an assignment for a User/System Interface Course in the Graduate School of Library and Information Sciences at the University of Texas at Austin.

"Trinitrotoluene, commonly known as TNT, is a constituent of many explosives, such as amatol, pentolite, tetrytol, torpex, tritonal, picratol, ednatol, and composition B. It has been used under such names as Triton, Trotyl, Trilite, Trinol, and Tritolo. In a refined form, TNT is one of the most stable of high explosives and can be stored over long periods of time. It is relatively insensitive to blows or friction. It is nonhygroscopic and does not form sensitive compounds with metals, but it is readily acted upon by alkalis to form unstable compounds that are very sensitive to heat and impact. TNT may exude an oily brown liquid. This exudate oozes out around the threads at the nose of the shell and may form a pool on the floor. The exudate is flammable and may contain particles of TNT. Pools of exudate should be carefully removed. TNT can be used as a booster or as a bursting charge for high-explosive shells and bombs". **This information is courtesy of the Ordnance Shop which is a web site dedicated to Navy and Marine Corps Aviation Ordnance.



**The photo is courtesy of the Engineering Analysis Group at the Los Alamos National Laboratory in Los Alamos, New Mexico.



[Back to index](#)

This page by David N. Locksley and you can email me your comments at: dlocks@mail.utexas.edu
Thanks!

An inhalation reference concentration (RfC) for TNT has not been derived.

Limited information is available on the reproductive or developmental toxicity of TNT to animals or humans following inhalation exposures. Information from occupational exposure studies suggests that TNT may cause menstrual disorders and male impotency (Zakhari and Villaume 1978, Jiang et al. 1991).

No epidemiological evidence is available showing an association between chronic TNT exposure and tumorigenicity in humans. In animal carcinogenicity studies, a significant increase in urinary bladder papillomas and carcinomas was seen in female F344 rats dosed with 50 mg TNT/kg/day for 24 mo (Furedi et al. 1984a). This study was used by EPA to calculate a slope factor of $0.03 \text{ (mg/kg/day)}^{-1}$ (EPA 1991). TNT is classified in weight-of-evidence Group C, possible human carcinogen (EPA 1991a, b).

1. INTRODUCTION

2,4,6-Trinitrotoluene (TNT) is a yellow crystalline solid used as a high explosive in military armaments and as a chemical intermediate in the manufacture of dyestuffs and photographic chemicals (Sax and Lewis 1987). It is slightly soluble in water (104 to 113 mg/L) and soluble in alcohol, ether, acetone, benzene and carbon disulfide (EPA 1990). It has a density of 1.654 g/mL, a vapor pressure of 8.02×10^{-6} mm Hg at 25°C, and a log K_{ow} of 1.60 (EPA 1990).

TNT is likely to enter the environment in wastewater effluents from production facilities and from leachates at waste disposal sites. Direct photolysis (half-life 14 hr) and microbial degradation are expected to be the major loss pathways. Mobility in soil may be limited by strong adsorption to soil particles. Volatilization to the atmosphere from water or soil is not expected to be significant (EPA 1990).

2. METABOLISM AND DISPOSITION

2.1. ABSORPTION

TNT is absorbed through the gastrointestinal tract, the skin, and the lungs. Studies on laboratory animals dosed with radiolabeled TNT have shown that rates of absorption, as indicated by the 24-hr recovery of radioactivity in the urine, can be as high as 74.3% following oral dosing and 52.8% after dermal exposures. Following intratracheal dosing to rats, urinary recovery was 12.7 to 19.3% after 4 hr (El-hawari et al. 1981).

2.2. DISTRIBUTION

Idaho National Engineering & Environmental Laboratory

Site 026 Track 1 Decision Documentation Package, OU 10-08: Detonation Pit Between NRF and TRA (DOE/ID 10895)

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
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Copy of hand written memo regarding the nature of the ordnance found at this site. The memo would carry more weight if the author's name is on it.	Comment incorporated.
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Copy of hand written memo regarding the nature of the ordnance found at this site. The memo would carry more weight if the author's name is on it.

Page 1 of 1